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Emerging Themes in Adult Multiple Intelligences

Research

by **Silja Kallenbach**

A team of teachers researched the effects of using multiple intelligence-influenced instruction in their adult education classes. Their experience suggests that MI theory has much to offer adult basic education.

A group of Latino elders is gathered in the kitchen of Centro Hispano in Chelsea, MA, for their English lesson. One woman is scraping the gelatin from an aloe vera plant while an elderly man is blending chopped onions and water. Another "senora" is chopping limes; several others are assisting and observing. They are talking animatedly in halting English peppered with Spanish about different ways to heal various ailments with natural remedies. Their teacher, Diane Paxton, is busy taking photos she will ask them to sequence later. The photos will also serve as a memory prompt when the learners write down their recipes. When the class does its customary assessment of what the students liked and disliked about the preceding month's activities, several students agree with a classmate's sentiment when she says, "Very good, we learned a lot of words. I'd heard the word blender, but didn't know what it meant." Another student holds up the book "Natural Medicines," which the group has written as a class project, saying: "This is our literature."

Several hours' drive north, in Manchester, VT, another group of adults is hunched over multicolored flash cards spread on a table along with math manipulatives. Converting measurements is the topic of this evening's class. Written on the cards are measurements expressed in fractions, percents, or decimals. The students' task is to puzzle out which figures are equal. There is a lot of laughter and negotiation of correct answers. Meanwhile, Meg Costanzo, the teacher, is watching silently.

Both of these vignettes took place in the course of the Adult Multiple

Intelligences (AMI) study. Both learning activities could be described as being "in the spirit of" multiple intelligences theory. They illustrate what we have learned in the AMI study: There is no one way to apply MI theory in instruction, but some common approaches have emerged.

The AMI study explores the application of Howard Gardner's theory of multiple intelligences (MI) to adult learning and teaching. The theory defines intelligence as the ability to solve problems or create products that are valued in one or more cultures or communities. It counters views that intelligence can be measured solely through IQ tests. It contends that all humans possess at least eight forms of intelligence: linguistic, logical/mathematical, spatial/visual, bodily/kinesthetic, musical, interpersonal, intrapersonal, and naturalist.

MI theory has been widely applied at the pre-K - 12 level. The National Center for the Study of Adult Learning and Literacy AMI study is the first extensive and systematic investigation of the use of MI theory in adult literacy education. It is a qualitative, naturalistic study with teacher research at its center. Between December, 1996, and June, 1998, 10 teachers, working with about 140 students, grappled with and applied MI theory in their classrooms. While the analysis of commonalities and differences in the teachers' experiences continues through 1999, the themes emerging from the research are instructive.

Six Themes

Using an MI framework leads teachers to offer a greater variety of learning activities.

MI theory supports and validates creative, multimodality teaching. Given that MI is not a technique but a theory, it lends itself to varied interpretations, all of which have in common their student-centeredness. While it is just one entry to such teaching, it tends to propel teachers to "push the envelope."

The AMI experience suggests that when teachers begin to consider students' strengths beyond the linguistic and math/logical they gain, more often than not, an increased appreciation of their students and new insights into how to reach and teach them. Furthermore, it appears that the consideration of MI theory leads teachers to offer a greater variety of learning activities, whether or not they try to identify their students' particular strengths.

AMI teacher Martha Jean developed lessons that gave students choices that corresponded roughly to combinations of the eight intelligences. These lessons became especially popular among the AMI teachers. They

could provide options for students to learn through different types of experiences and media.

Choice-based lessons were by no means the only way the AMI teachers carried out MI-based instruction. As a whole, MI-based approaches can be characterized as constructivist. They invite students to construct their own meaning through problem-solving and the media of their intelligence strengths, building on what they already know and feel competent in. Thematic and project-based lessons are common ways in which teachers put constructivism into practice. Meg Costanzo's students' favorite project without exception was to devise ways to increase enrollment in their learning center. They redesigned the center's recruitment flyer and sign, wrote a public service announcement, interviewed graduates, and calculated attendance rates. The number of hours of student attendance, mostly their own, increased 220% since the beginning of Meg's involvement in the AMI study.

Sometimes an MI-based activity functioned as a "hook" that got students engaged and willing to grapple with more abstract, rote, or decontextualized material. Martha had her students choose and complete three learning activities out of a possible six to 10 across GED content areas. For example, she invited the students to "compare the size and look of each planet using Play-Doh, paper, or balloons" or to "show what would happen to you if you were standing on each planet using mime, dance, or play." These choice-based activities were typically followed by work in GED workbooks. Lezlie Rocka followed readings in her basic literacy class with choice-based activities.

All but one of the 10 AMI teachers concluded that MI theory pushed them to take more risks and broaden their teaching beyond what they had been doing. The level of creativity in their lessons increased discernably. Lezlie, for example, went from believing that MI theory had little to offer to her already multi-sensory teaching approach to asserting that MI theory informed and broadened her approach to teaching reading and writing. Throughout her AMI experience, Diane Paxton described her use of MI theory as "only one aspect that I draw on under the umbrella of my teaching" (Paxton, 1998, p. 26). Nevertheless, she "used MI theory to develop thematic units and creative group projects MI also helped to overcome the problem of various levels in the class, helping to ensure language acquisition opportunities for all students" (p. 16).

Observing students' learning preferences generates valuable information about students' strengths that can inform the development of future lessons.

An alternative or complementary approach to having students assess their

own intelligences is for the teacher to observe and analyze their learning preferences, interactions, and writings over time. Terri Coustan found that she could generate rich information about her beginning ESOL students' intelligences by paying close attention to the choices and comments they made. For example, when a student expressed preference for math, Terri suggested she choose a paragraph-sequencing activity that draws on logical/math intelligence. Meg reports that she gained new insights into her GED and diploma program students' intelligences through weekly dialogue journals with her students. She then used this information to guide the students in choosing learning strategies. For example, she found that MI theory provided a compelling rationale for using webbing as a pre-writing activity to collect one's ideas and thoughts, particularly with students who are spatially intelligent.

Wendy Quişones developed an original method for observing students' intelligences. Before showing the movie *Educating Rita*, Wendy asked her students to choose one or two things to observe from among several possibilities that were calibrated to the eight intelligences. She explained the value of this experience: "One of the questions I developed clarified for me the distinction between linguistic and non-linguistic approaches to problems: I asked [students] for the floor plan of Rita's house. Now, to ultralinguistic me, this seems almost silly: I don't care what the floor plan is, nor would I normally think to ask about it. For someone strongly spatial, however, this might be an extremely interesting project - and the point is that the floor plan would have to be deduced from the events in the movie. For the spatial person, this activity would involve her quite literally in putting these events into a perspective that makes deep sense to her" (Quişones, 1998, p. 11).

The diversity of viewing preferences expressed by the students was illuminating to Wendy and to her students: "For example, one normally quiet woman demonstrated a stunning spatial intelligence by citing detail after detail of color, clothing, jewelry each one a significant commentary on the movie and on Rita's character. Among many other observations, she noted that Rita at times had red in her hair and clothes so we could really see fire in her.' She pointed out that Rita's shirts literally had blue or white collars, depending on whether she was doing manual or intellectual work, and that for the last half of the movie, Rita wore a dragonfly pin so that we would get the message that she was really starting to fly.' In one of those rare but glorious moments, a different student picked up the conversation. That's just a whole different way of thinking,' she said. I would never see all that. I wish I could do that.' But a third student couldn't let things rest there. Turning to the second student, who is extremely musical, she said, Yes, but you thought of all the music, how the beginning music added to the scene'" (Quişones, p.

18).

Teachers often begin applying MI by having students assess their own intelligences, but a range of factors affects whether students find the assessment useful or meaningful.

Self-knowledge is one of the defining features of intrapersonal intelligence. One dimension of this knowledge is knowing one's intelligence strengths. The development of this form of intrapersonal intelligence is important to many endeavors, such as career planning. That was the hunch Jean Mantzaris had when she set out to investigate what MI theory might have to offer to her career-planning course with ABE and GED students. She began this process by teaching her students about the theory and by having them assess their own intelligences. Like several of her peers, Jean used a survey instrument developed by Meg Costanzo. Jean reports that the eight of 11 students who stayed with the course gained positive insights about themselves partly as a result of doing MI self-assessments. Both Jean and her students found the intelligence self-assessments to be easier to relate to and therefore more meaningful than traditional career aptitude tests.

One of Jean's students writes, "This stuff is fun, but more than that it shows you how many people around you are smart in many ways and so am I," (Mantzaris, 1998, p. 5). In addition to speaking to a heightened sense of his own capabilities, the comment also highlights the appreciation many students gained for each other's intelligences when the surveys were discussed in class. Wendy focused on this aspect in her teacher research. She concludes that, for her students, "Adding the MI framework, which validates many ways of learning, knowing, and demonstrating knowledge, makes it impossible to ignore the evidence that others have strengths which we ourselves lack, and makes the conclusion almost inescapable that working with others is at least sometimes advantageous" (Quişones, 1998, p. 17).

Meg found that "Students appreciate having their intelligences acknowledged and valued. Many have never had the opportunity to claim their intelligences before this experience" (Costanzo, 1998, p. 9). A comment by one of her students explains Meg's assertion, "I haven't really had time to think about where my strengths are. I just know my weaknesses and that sometimes worries me. I always knew everyone had strengths and weaknesses, but I always worried about the things I couldn't do, not the things I could" (p. 32). A month later, the same student wrote, "You have inspired me in more ways than one and I never thought I could feel this good about my education and my self-esteem."

Jean and Meg are two of the five AMI teachers who found it useful to

have their students assess their own intelligences. Three teachers did not find this approach useful, and one never tried it. A more thorough analysis will, it is hoped, reveal what underlies this diversity of opinion.

Meg's and Jean's students were secondary, rather than basic literacy, students, which may be why they were more readily able or willing to find value in MI self-assessments than their less literate counterparts. A divergent case is presented by Betsy Cornwell's ABE and high school diploma program students, most of whom did not respond positively to the idea of assessing their own intelligences. Betsy writes, "While I expected that the creation of individual intelligence profiles would yield a wealth of information about my students' intelligences and preferred ways of learning, I found that the exercise had limited usefulness and relevance for my particular group of students" (Cornwell, 1998, p. 7).

Neither of the two ESOL teachers who participated in the AMI study found it particularly useful to have students assess or talk about their own intelligences. One reason they did not use Meg's survey was that its vocabulary is inaccessible for beginning ESOL learners. They tried to have their beginning ESOL students identify their intelligences through pictures that depicted people using particular intelligences. Diane felt that trying to identify the exact combinations of intelligences that underlie her ESOL students' strengths was confusing both to her and her students, even when the students' native language was used to clarify concepts, and of questionable educational value: "I would venture to say that every adult student has stories of the development or estrangement of their intelligences. For me this is really beginning to call into question the part of MI that stresses that individuals investigate and become familiar with their own intelligence profiles."

Students' regular reflection on their learning shifted and broadened their paradigms of effective and acceptable teaching and learning practices.

According to the AMI teachers, a typical ABE, GED, or ESOL student expects traditional lessons with workbooks or other text-oriented methods. At this stage of our data analysis it is not clear, but we wonder whether the students' level of previous education is a factor in how fast and willingly they will expand these expectations once they experience other ways to learn. Our data does suggest that when MI-based lessons are coupled with regular reflection and self-assessment of what is helping adults to learn, students begin to shift their paradigm of effective teaching and learning. More specifically, they begin to see value in more diverse ways of learning. Diane's findings are instructive in this regard: "Ongoing assessments, both formal and informal, of the students' ideas and feelings of what helps them to learn, understand and practice English, were what showed the students and me that the changes towards

a more diverse curriculum resulted in an effective way to learn English. Therefore these assessments were essential in students coming to accept MI-inspired curriculum" (Paxton, 1998, p.27). Diane used multiple types of assessments such as student-teacher conferences, surveys, and group discussions.

The AMI teachers concurred that developing students' metacognitive skills can be arduous. Reflecting on one's learning does not come easily for most adult literacy students. It is both a skill and a habit that needs to develop over time. Students may resist reflection and fail to see its relevance. A few of Diane's students apparently thought that she did not know how to teach because she was asking for their opinions on the subject all the time!

Diane and several of her colleagues found that building trust and community in the classroom is necessary for MI-based instruction. Trust and mutual respect enable people to take risks into the unfamiliar together, to perform a skit, to tell a story, or to build something. Terri expresses this: "Although trust was not directly germane to MI-based learning, it supported MI-based learning. A trusting community allowed students to take chances in their learning and to try new things" (Coustan, 1998, p. 28).

Teachers perceive a shift in the balance of power in the classroom when they offer students intelligences- informed choices in how they learn and express their understanding.

When teachers gave students choices in how they learn and demonstrate what they have learned, they were effectively giving some control to students. As a group, the AMI teachers' perception of the effect of their AMI work was a noticeable shift in the teacher-to-student power relations. It is possible that the act of validating students' strengths, interests, and preferences is an important first step that helps build the students' self-confidence and enables them to take control over their own learning and the curriculum. Furthermore, when students examine their strengths, they are likely to deepen their self-knowledge, which gives them a firmer foundation from which to direct their learning.

Several AMI teachers found themselves relinquishing some control by giving students choices and respecting their individual ways of learning and knowing. Terri found that, as students began to express preferences through choice-based activities, they also became more assertive in other ways, shifting the balance of power in the classroom somewhat. She writes, "My experience over the past few years had shown me that these students were reluctant to share their preferences with me. I had almost given up hope of ever being able to learn their preferences and had

decided that this behavior was related to learners with limited English. Now the students appeared to have reached a benchmark or milestone. More students made choices. And those choices reflected both what the students liked and did not like about the activities I suggested" (Coustan, 1998, p. 21).

Likewise, Lezlie comments, "My class became more interactive and student-directed as I experimented with MI theory. Before this research project, I did most of the leading and dictated the order of the activities" (Rocka, 1998, p. 15). Sharing power with students was an unanticipated outcome of the changes Terri and Lezlie made in their teaching. Exploring how MI theory might serve to empower students was the focus of Wendy's research project. Her answer was "yes" in terms of the classroom-based power relations: "A change in the teacher-student relationship in the classroom rapidly became apparent. The combination of assignments based on multiple intelligences with the strategy of allowing students to choose their own assignments was the best I have yet found for sharing power while giving students a firm structure within which to work" (Quişones, 1998, p. 13).

MI-informed education encourages teachers to learn more about their students, and may cause them to increase their expectations of students.

A well-known principle of adult education is that adults come to us with plenty of life experience, and that good adult education should acknowledge and draw on that experience. Teachers commonly try to get to know their students' goals and interests. MI theory offers another lens through which to view students. This lens can be perplexing or illuminating.

The majority of the AMI teachers did find value in viewing their students through an MI lens. They felt that they gained a richer perspective on the student as a whole person. It provided not just interesting but also substantive information they could use to prepare lessons to help their students find new, perhaps more effective pathways to learning. Terri, for example, uncovered talents she did not know her Hmong students had and created opportunities for them to use those talents to learn English. When she saw that Choua, who is not literate in his native language, was good at building, she made sure his learning options included modeling new vocabulary words from clay or other material. This is not to say that her teaching approach is not validated by, or consistent with, other theories and approaches, such as participatory education. Nevertheless, Terri comments that MI theory led her to see more dimensions of her students.

As students were better able to demonstrate their strengths and use those

strengths to learn new skills and information, their achievements sometimes exceeded their teachers' expectations. Wendy writes of her secondary level students, "My students' enthusiasm for being allowed to make their own choices, and their resulting willingness to spend time doing things they previously didn't think they could enjoy or learn, would have been enough reward for using this structure in my classroom. But there was much more! Students very often surprised me with their choices in these activities, taking on tasks one would never have suspected them capable of" (QuiÒ, 1998).

Lezlie writes, "I do not know that I am seeing changes in students' abilities. What I am seeing is perhaps other sides of the students that I would not see if we were only doing paper and pencil work. I was continually moved by the students' depth of understanding, sensitivity to the subject, and interest once they were allowed to choose their form of expression" (Rocka, 1998, p. 15).

It would stand to reason that as students exceed teachers' expectations, teachers would begin to raise their expectations of students. It is too early in our data analysis to make a strong case for this. We can, however, say that the teachers' expectations of themselves and their teaching has changed. Perhaps Meg sums it up best: "I come away from my research with a revised model for an effective ABE classroom, one that is less teacher-centered and which gives the students a greater voice in what they study. It is a classroom that emphasizes personal growth as well as academic development. It is a model that encourages students to solve real life problems and develop a variety of skills they will find useful in the future" (Costanzo, 1998, p. 28).

Conclusion

The AMI experience suggests that the 10 teachers involved tended to go through stages in their efforts to apply MI theory. They typically began by assessing students' intelligences under the assumption that intelligence profiles are the most important feature of MI theory. Later, they came to realize that what matters is not achieving perfect accuracy in assessing students' intelligences as much as their awareness that any given group of students possesses a diversity of intelligence strengths, and that their learning will be facilitated if they draw on those strengths. MI theory became another lens through which they could view, understand, and appreciate students and with which they could design engaging lessons.

The AMI teachers' efforts to engage students and facilitate their learning in light of MI theory led most of them to offer choices and multiple ways to engage with topics and materials. Having choices, in turn, gave their students more control over their learning and developed student voice.

Teachers and students shifted their paradigm not only of what is desirable but also of what is possible. As one of the AMI teachers said about MI theory in education: "In the end, it's about looking at everyone from a strengths perspective. We all have strengths."

The work of the AMI teachers lay the groundwork for our understanding of what happens when "MI grows up." As befits an initial investigation, we expect the AMI study to generate at least as many new questions as it will answer. It will surely point to new and promising areas of inquiry related to MI in adult education.

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